PERSONAL NOTES AND COMMENT AREA

Write any pertinent notes or comments regarding your particular installation here.

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JCM GLOBAL Operator's Guide

iVIZION® Banknote Validator

Preventive Maintenance Instructions

This Guide describes procedures for the cleaning and maintenance of the iVIZION® Banknote Validator. For additional information, refer to Section 2 of the iVIZION Operation and Maintenance Manual (JCM P/N 960-100929R).

- Notes regarding iVIZION Components:
  - Sensor locations are shown in yellow.
  - Rollers are shown in blue.
  - Drive Belts are shown in orange.
  - Release levers are shown in green.
  - Anti-stringing area is shown in red.

iVIZION REFERENCE DIAGRAMS

Figure 1 identifies the iVIZION™ Validator Head, Transport Unit and Cash Box.

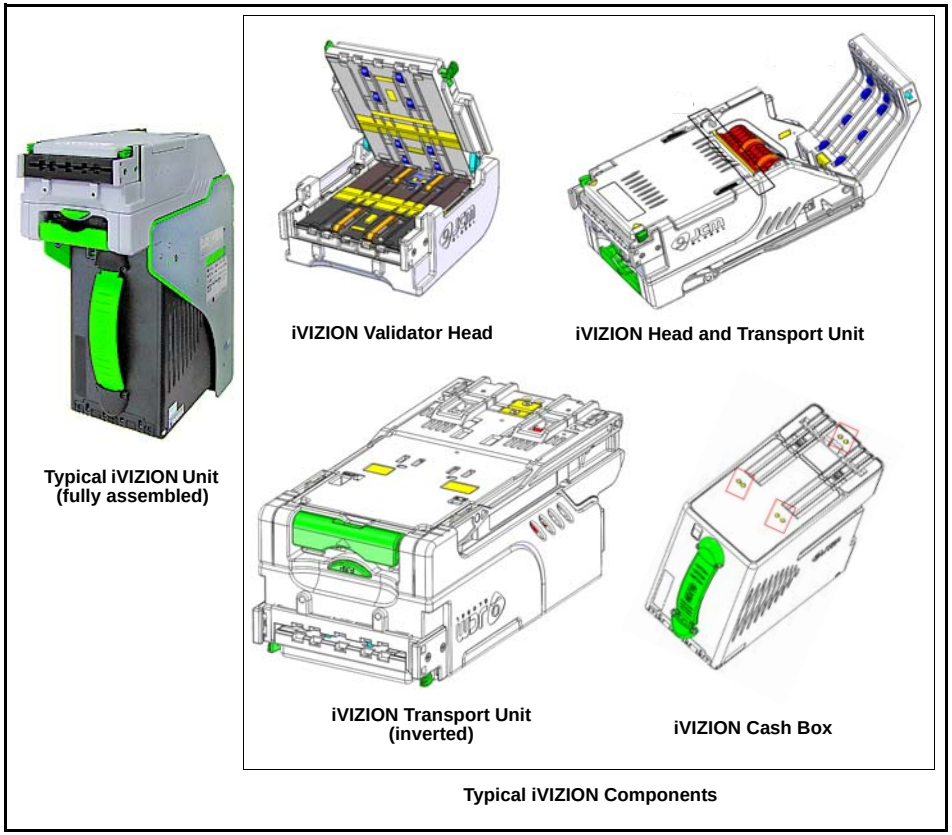

Figure 1 iVIZION Unit, Validator Head, Transport Unit and Cash Box

iVIZION PREVENTIVE MAINTENANCE INSTRUCTIONS

Instructions for performing a basic cleaning and maintenance of the JCM iVIZION Banknote Validator are described below.

NOTE: In the following procedures, be sure to use only WARM water with a small amount of liquid dishwashing soap as a cleaning solution. ***Alcohol, thinner, solvents, and citrus-based cleaners SHOULD NEVER be used.*** *These types of chemicals can cause "hazing" of the imaging and optical sensors, and premature drying out of the Drive Belts and Rollers.*

NOTE: JCM Global ***does not*** *recommend the use of any Cleaning Card on the iVIZION Banknote Validator.*

TOOLS AND EQUIPMENT

The following Tools and Equipment are required to properly clean your iVIZION Banknote Validator:

- Two clean, dry lint-free cloths (or micro-fiber cloths)
- Cleaning solution: Warm water with a few added drops of mild, non-abrasive detergent, such as liquid dishwashing soap)
- Canned compressed air, or a clean, moisture-free source of low pressure (LP) air
- Medium-bristled Technician's Cleaning Brush (JCM P/N 501-000097R), nylon brush or acid brush
- Wood or plastic wand
- PS75-002 (or equivalent 12 Volt DC) Power Supply, or a suitable 24 Volt DC Power Supply
- JCM Tool Suite Installation Guide - Refer to the Support section at www.jcmglobal.com

REFERENCE MANUALS

- iVIZION Operations and Maintenance Manual - Refer to the Support section at www.jcmglobal.com

PERSONAL NOTES AND COMMENT AREA

Write any pertinent notes or comments regarding your particular installation here.

CASH BOX PREVENTIVE MAINTENANCE

NOTE: Cash Box Preventive Maintenance should be performed annually or as needed. Remove the Cash Box from the Game, and then perform the procedure listed below.

1. Open the Cash Box and use compressed air or moisture-free low pressure (LP) air to blow out any dust or debris from inside the Cash Box.
2. Use a damp, lint-free cloth to wipe away any dust, dirt or stains from the Cash Box Gears.
3. Using a Technician's Cleaning Brush (JCM P/N 501-000097R), clean any debris built up on the Cash Box Gears.
4. Using a clean, damp, lint-free cloth, clean the Cash Box Sensors (refer to **Figure 10,** yellow areas).
5. Use a dry, clean, lint-free cloth to wipe away any dirt, debris and moisture from the Cash Box.

Typical iVIZION Unit (fully assembled)

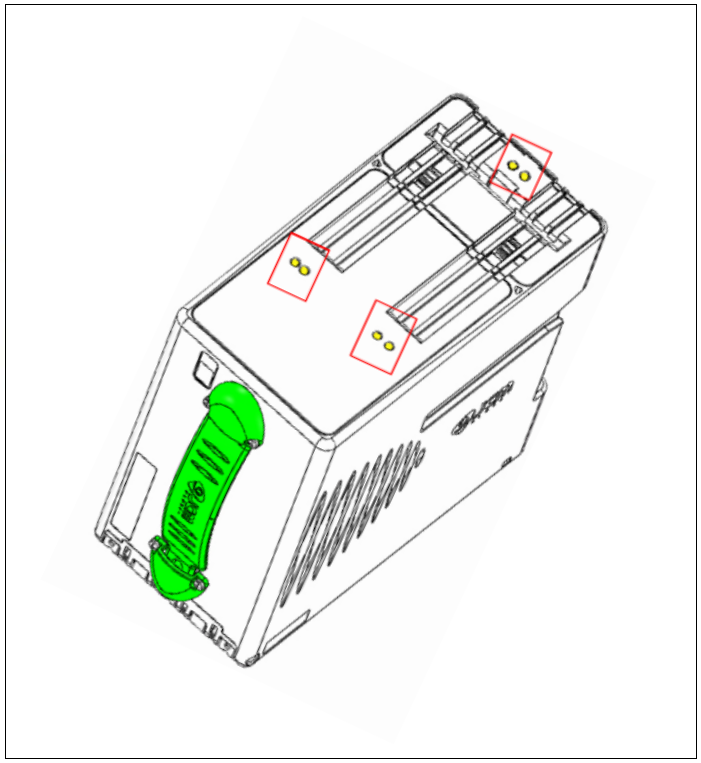

Figure 10 iVIZION Unit and Cash Box

PREVENTIVE MAINTENANCE SCHEDULE

The iVIZION Banknote Validator will perform at optimal levels when regularly-scheduled maintenance is performed. The recommended Preventive Maintenance Schedule should be followed based on time periods or acceptance cycles. The acceptance cycle can be determined by adding the number of Banknotes accepted to the number of Tickets accepted for a total estimate of acceptance cycles.

NOTE: The actual Maintenance Schedule may vary, due to environmental conditions and/or usage levels.

MONTHLY OR 12,000 CYCLES

Every Month or 12,000 Cycles, the following procedures should be performed at the Machine (approximate time for completion: 30-60 seconds):

Table 1 Monthly or 12,000 Cycles

Component	Procedure Description (Details follow this table)
Validator Head	Clean all the Sensor Lenses in the Validator Head (refer to **Figure 2** - iVIZION Validator Head (Yellow Area).
Transport	Clean all the Sensor Lenses in the Transport Unit (refer to **Figures 3 and 8** - iVIZION Transport Unit (Yellow Areas).
Transport	Clean the Transport Feed-In Sensor Lenses (refer to **Figure 3** - iVIZION Transport Unit - Feed-In Sensor).
Cash Box	Clean all the Sensor Lenses in the Cash Box (refer to **Figure 4** - iVIZION Cash Box (Yellow Area).
	Reinstall and verify proper operation.

INSPECTION

1. Remove the iVIZION Validator from the Machine, and place it on a suitable work surface.
2. Perform a visual inspection of the entire iVIZION Unit. Look for any broken or damaged parts that need to be repaired or replaced.

CLEANING THE VALIDATOR HEAD (MONTHLY/12,000 CYCLES)

1. Remove the iVIZION Validator Head (refer to **Figures 1 and 2**) from the Transport Unit. To do so:
   a). Press the green release ("PUSH") button on the front of the Validator Head.
   b). Pull the Validator Head off and away from the Transport Unit.
2. Open the Validator Head cover by pressing the green-colored release latches on the left and right sides (refer to **Figure 2**).
3. Use a clean, lint-free Micro-Fiber cloth (dampened with cleaning solution) to wipe off any dirt and stains from the surfaces of the Imaging and Optical Sensors.

   NOTE: Be sure to wipe down the entire Bill Path in both the upper and lower sections of the Validator Head.
4. Use a clean, dry Micro-Fiber cloth to perform a second wipe-down of the Bill Path area, to remove any excess cleaning solution, moisture, residue or haze from the Imaging and Optical Sensor Lenses. Make sure the entire Bill Path is free of any smudges, streaks or residue.

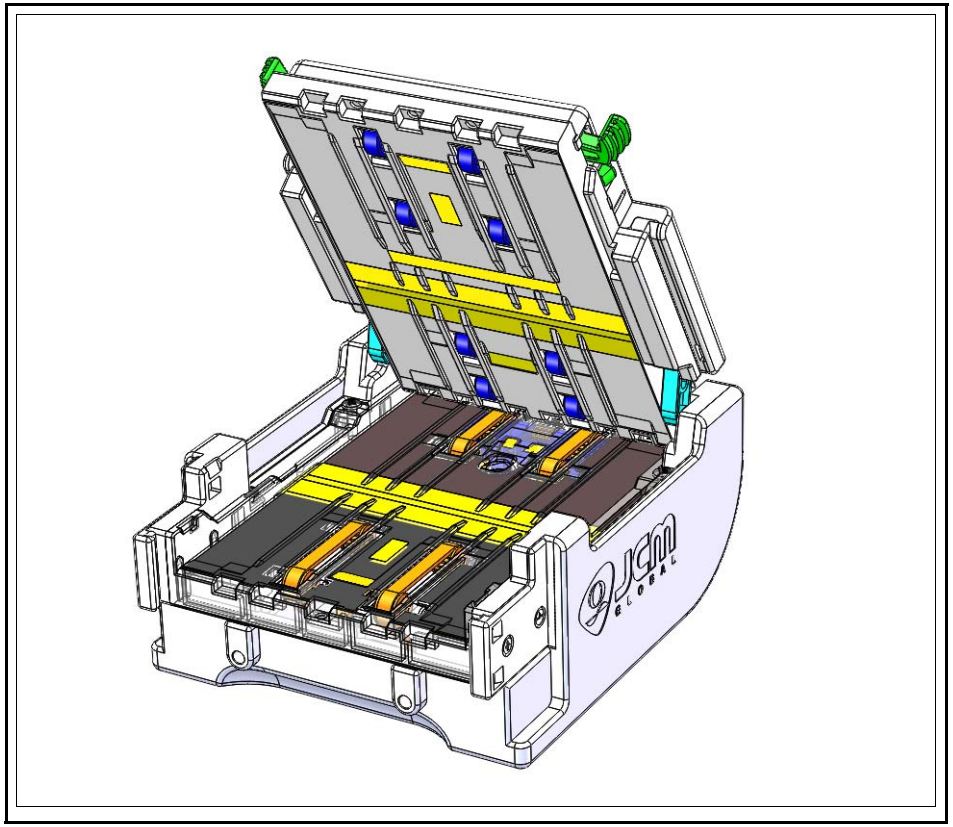

Figure 2 iVIZION Validator Head

GENERAL (ANNUAL/144,000 CYCLES)

1. After cleaning, reassemble the iVIZION Validator Head and the Transport Unit, so that the iVIZION Unit is fully assembled.
2. Calibrate the iVIZION Unit.

   NOTE: Refer to Section 6 of the iVIZION Operation and Maintenance Manual (JCM P/N 960-100929R) for calibration instructions.
3. Using the JCM Tool Suite application, initialize the iVIZION Statistics.

   NOTE: Initialization resets the performance numbers to Zero (0) and stores the date from the PC on the iVIZION Unit for future reference.
4. If a repair or firmware change is not required, then the iVIZION Cleaning and Preventive Maintenance procedure is complete. The iVIZION Unit may be returned to service.

   NOTE: Repeat the Monthly, 6 Month and Annual Procedures for the next Preventive Maintenance cycle.

Figure 9 iVIZION Unit (Fully Assembled)

CLEANING THE TRANSPORT (ANNUAL/144,000 CYCLES)

1. Perform the Monthly Transport Cleaning Procedures (refer to Page 5).
2. Perform the 6 Month Transport Cleaning Procedures (refer to Page 9).
3. Use the JCM Tool Suite application to run the Aging Test. Listen for excessive or unusual noise.

   NOTE: Perform at least 5 Aging Cycles. If necessary, replace the Motor Gear Assembly.
4. The Transport Unit uses light pipes for the transfer of some optical signals in the unit. Remove the bottom cover of the Transport Unit to clean the Lenses on the inside of the Transport Cover where these signals cross over (refer to **Figure 8,** yellow areas).
5. Clean the Sensor components on the Processor PCB, using compressed air or moisture-free low pressure (LP) air to blow out any dust.
6. Remove the Motor Gear Assembly.

   NOTE: Refer to Section 4 of the iVIZION Operation and Maintenance Manual (JCM P/N 960-100929R) for removal instructions.
7. Remove the Encoder PCB from the Motor Gear Assembly.
8. Use compressed air or moisture-free low pressure (LP) air to blow out any dust or debris from the gears.
9. Inspect the Motor Drive Gear Assembly for damaged or worn gears.

   NOTE: If necessary, replace the Motor Drive Gear Assembly.
10. Reinstall the Motor Drive Gear Assembly in the Transport Unit, and then reinstall the bottom cover.
11. Use a clean, dry, lint-free Microfiber cloth to wipe down the Transport Unit and remove any cleaning solution, moisture or residue that may remain on the Optical Sensor Lenses.

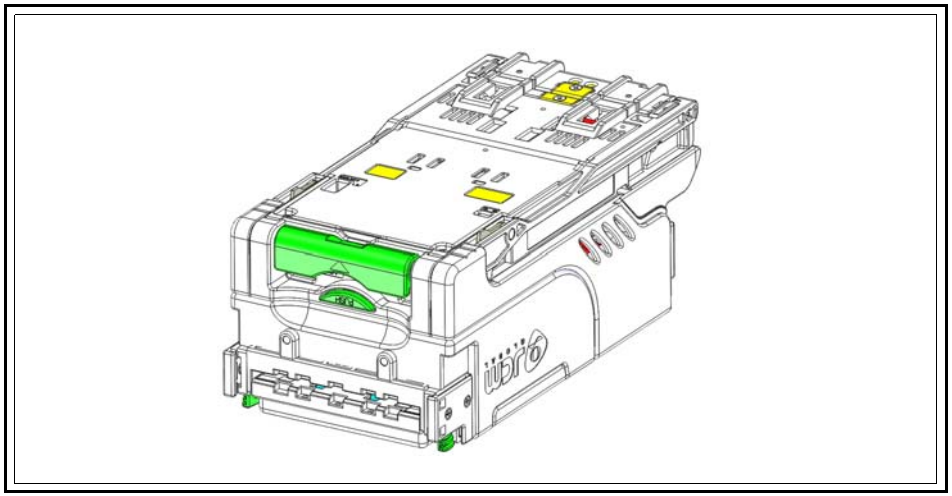

Figure 8 iVIZION Transport Unit (Inverted)

CLEANING THE TRANSPORT (MONTHLY/12,000 CYCLES)

1. Open the Rear Transport Cover on the Transport Unit. To do so, pull forward on the green release catch on the top of the Transport Unit, to expose the rear section of the Transport Unit for cleaning (refer to **Figure 3**).
2. Use a clean, lint-free Micro-Fiber cloth (dampened with cleaning solution) to wipe off any dirt and stains from the Optical Sensors (refer to the yellow areas in **Figure 3**).

   NOTE: Be sure to wipe down the entire Bill Path in both the upper and lower sections of the Transport Unit.
3. Locate the Feed-In Optical Sensor Lenses, directly in front of the Anti-Stringing Mechanism (refer to the red areas in **Figure 3**). This area features a grooved channel in the molding that can collect dust in dirty environments.
4. Use a clean, lint-free Micro-Fiber cloth to wipe the grooved channel clean, and reduce the risk of false "Bill Jam" errors.
5. Using a clean, lint-free Micro-Fiber cloth (dampened with cleaning solution), clean and dry the Feed-In Optical Sensor Lenses located on each side of the Transport Path.

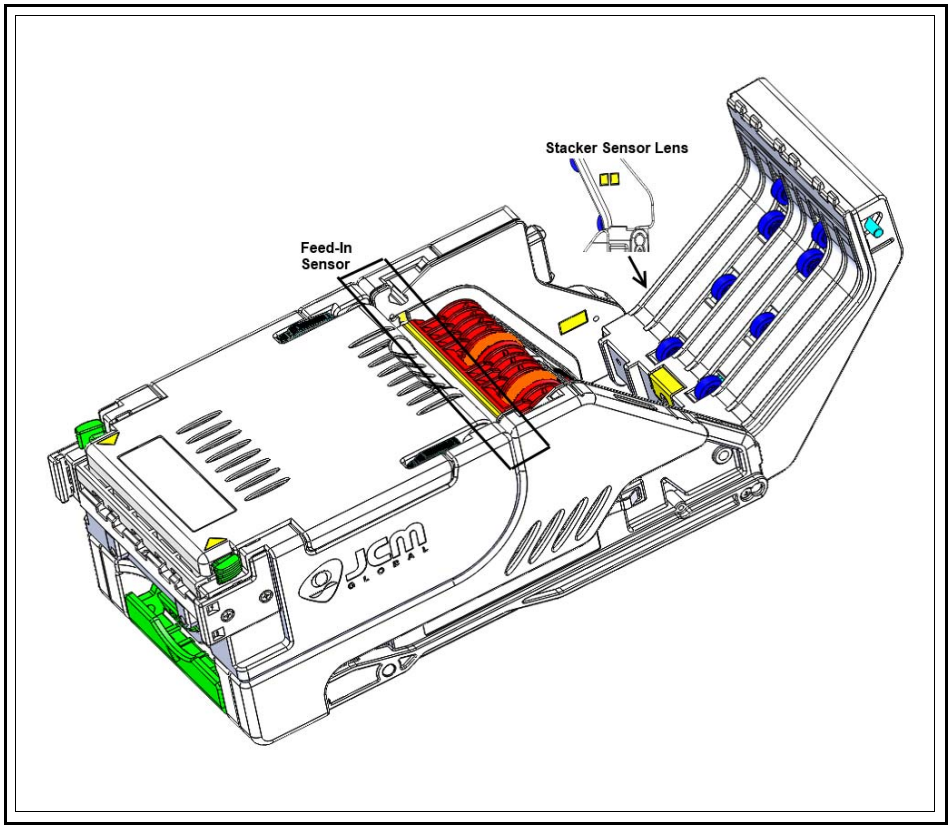

Figure 3 iVIZION Transport Unit

CLEANING THE CASH BOX (MONTHLY/12,000 CYCLES)

NOTE: The Cash Box Optical Sensors can be accessed while the Cash Box is mounted in the Frame.

The three sets of Cash Box Optical Sensors (refer to the yellow areas in **Figure 4**) are not flush-mounted, and often tend to collect dust.

1. Use a clean, lint-free Micro-Fiber cloth (dampened with cleaning solution) to wipe away any dust, dirt or stains from the Optical Sensor Lenses on the Cash Box (refer to the yellow areas in **Figure 4**).
2. Use a dry, clean, lint-free Micro-Fiber cloth to wipe down the Cash Box to remove any excess cleaning solution, moisture or residue that may remain on the Optical Sensor Lenses.
3. Reassemble the Validator Head and Transport Unit.
4. Reinstall the iVIZION Unit into the Machine.
5. Verify proper operation.

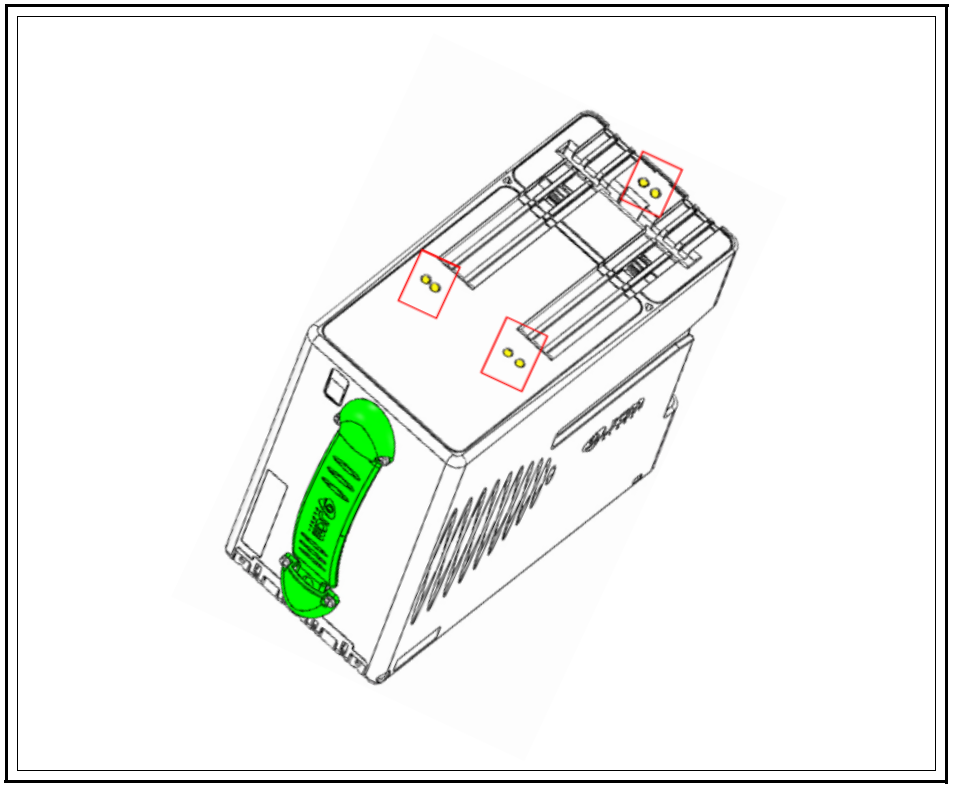

Figure 4 iVIZION Cash Box

ANNUAL OR 144,000 CYCLES

Every 12 Months or 144,000 Cycles, the following procedures should be performed in a Service Area (approximate time for completion: 20 Minutes):

Table 3 12 Months or 144,000 Cycles

Component	Procedure Description (Details follow this table)
All	Perform the Monthly cleaning procedures (refer to Page 3).
All	Perform the 6 Month cleaning procedure (refer to Page 7).
Transport	Remove the Transport Unit's bottom cover, then clean the inside lens surfaces (refer to **Figure 8** - iVIZION Transport Unit (Yellow Area).
Transport	Inspect for gear damage or dirt build-up on the Motor Gear Assembly and clean as needed.
Complete Unit	Run the Aging Test to check for excessive noise, squealing or errors.
Transport	Verify Software Version and update, if necessary.
Complete Unit	Calibrate the Unit.
Complete Unit	Run the Acceptance Test and verify proper operation.

INSPECTION

1. Using JCM Tool Suite, check the Statistics for information on performance. Be sure to note the three most common Error Codes for Banknotes and Tickets. During the Maintenance Procedure, check areas of the iVIZION Validator that might generate the noted Error Codes.

   NOTE: Refer to Appendix A in the iVIZION Operation and Maintenance Manual (JCM P/N 960-100929R) for Error Codes.

2. Perform a visual inspection of the entire iVIZION Unit (Validator Head and Transport Unit). Look for any broken or damaged parts that need to be repaired or replaced.

CLEANING THE VALIDATOR HEAD (ANNUAL/144,000 CYCLES)

Perform the Monthly Validator Head Cleaning Procedures (refer to Page 4).

GENERAL (6 MONTHS/72,000 CYCLES)

1. Reassemble the iVIZION Validator Head and the Transport Unit, so that the iVIZION Unit is fully assembled.
2. Using the JCM Tool Suite application, initialize the iVIZION Statistics.

   NOTE: Initialization resets the performance numbers to Zero (0) and stores the date from the PC on the iVIZION Unit for future reference.
3. If a repair, calibration or firmware change is not required, then the iVIZION Cleaning and Preventive Maintenance procedure is complete. The iVIZION Unit may be returned to service.

Typical iVIZION Unit (fully assembled)

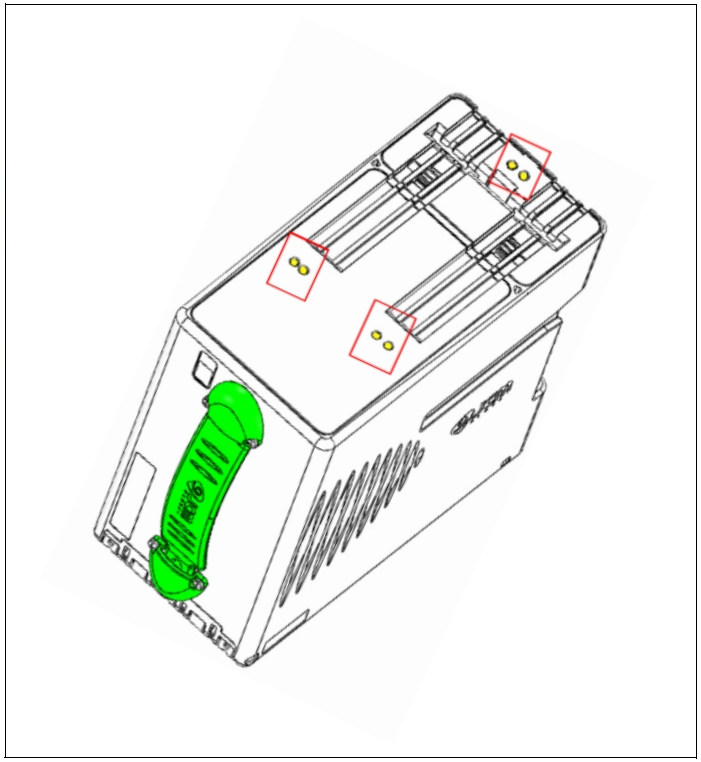

Figure 7 iVIZION Unit and Cash Box

6 MONTHS OR 72,000 CYCLES

Every 6 Months or 72,000 Cycles, the following procedures should be performed in a Service Area (approximate time for completion: 10-15 Minutes):

Table 2 6 Months or 72,000 Cycles

Component	Procedure Description (Details follow this table)
Inspection	Inspect for damaged or broken parts - repair or replace as required.
Inspection	Inspect Belts for wear or damage in the Validator Head and Transport Unit - Repair or replace as required.
Inspection	Inspect Optical Sensor Lenses for damage in the Validator Head, Transport Unit and Cash Box - Replace Lenses if scratched, cracked, discolored or damaged.
General	Complete the monthly cleaning procedure (refer to Page 3).
Validator Head	Clean the Validator Head Rollers (refer to **Figure 5** - iVIZION Validator Head (Blue Area).
Validator Head	Clean the Validator Head Belts (refer to **Figure 5** - iVIZION Validator Head (Orange Area).
Transport	Clean the Transport Rollers (refer to **Figure 6** - iVIZION Transport Unit (Blue Area).
Transport	Clean the Transport Belts (refer to **Figure 6** - iVIZION Transport Unit (Orange Area).
	Run the Acceptance Test and verify proper operation.

INSPECTION

1. Using JCM Tool Suite, check the Statistics for information on performance. Be sure to note the three most common Error Codes for Banknotes and Tickets. During the Maintenance Procedure, check areas of the iVIZION Validator that might generate the noted Error Codes.

   NOTE: Refer to Appendix A in the iVIZION Operation and Maintenance Manual (JCM P/N 960-100929R) for Error Codes.
2. Perform a visual inspection of the entire iVIZION Unit (Validator Head and Transport Unit). Look for any broken or damaged parts that need to be repaired or replaced.

CLEANING THE VALIDATOR HEAD (6 MONTHS/72,000 CYCLES)

1. Perform the Monthly Validator Head Cleaning Procedures (refer to Page 4).
2. Inspect the Drive Belts in the Validator Head (refer to **Figure 5**, orange areas).

NOTE: If the Drive Belts are heavily frayed, worn out, or damaged, the belts should be replaced.
Minor fraying along the left and right edges of the drive belts may result in "Belt Strings" extending out from the sides of the belts. These strings can be snipped away with a small pair of scissors. Drive belts do not need to be replaced if only minor fraying is evident.

2. Inspect the Imaging and Optical Sensor Lenses on the Validator Head (refer to **Figure 5**, yellow areas) for scratches, chips, cracks or discoloration.

NOTE: If a lens has any of these conditions, the lens should be replaced.

3. Using canned, compressed air or a clean, moisture-free source of low pressure (LP) air, blow out any dust, debris, or paper fibers from the Validator Head.
4. Clean the Rollers in the Validator Head using a Technician's Cleaning Brush (JCM P/N 501-000097R) to remove the dirt and any build-up.

NOTE: Use a wood or plastic wand to apply pressure to the side of a Roller, to keep it from turning during cleaning.
Be careful not to scratch the Rollers! Scratched Rollers will collect dirt faster, and may require more frequent cleaning.

5. Clean the Drive Belts in the Validator Head using a clean cloth dampened with cleaning solution. The Drive Belts in the iVIZION Validator Head can easily be moved by hand, to allow cleaning of the entire belt.

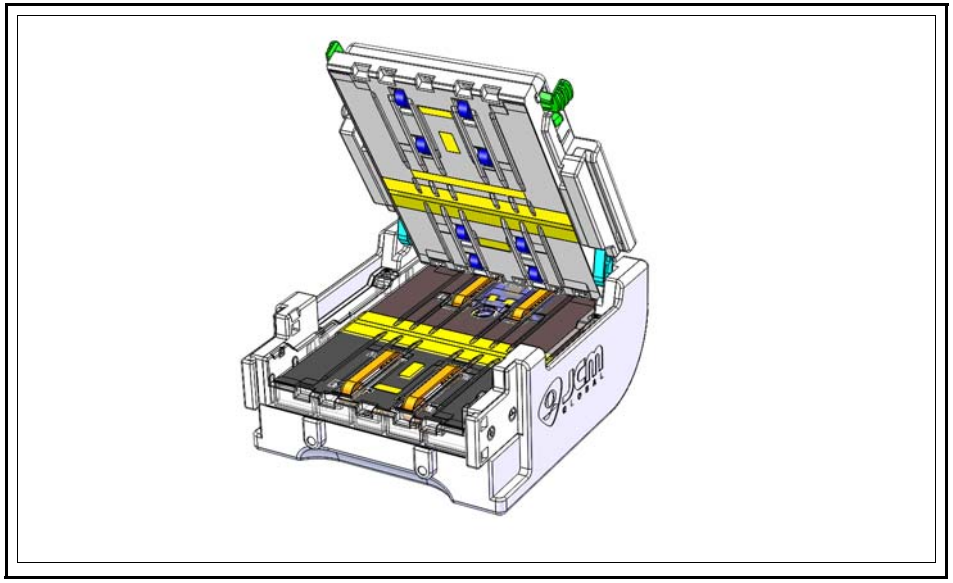

Figure 5 iVIZION Validator Head

CLEANING THE TRANSPORT (6 MONTHS/72,000 CYCLES)

1. Perform the Monthly Transport Cleaning Procedures (refer to Page 5).
2. Inspect the Optical Sensor Lenses on the Transport Unit (refer to **Figure 6**, yellow areas) for scratches, chips, cracks or discoloration.

NOTE: If a lens has any of these conditions, the lens should be replaced.

3. Inspect the Drive Belts in the Transport Unit (refer to **Figure 6**, orange areas).

NOTE: If the Drive Belts are heavily frayed, worn out, or damaged, the belts should be replaced.
Minor fraying along the left and right edges of the drive belts may result in "Belt Strings" extending out from the sides of the belts. These strings can be snipped away with a small pair of scissors. Drive belts do not need to be replaced if only minor fraying is evident.

4. Using canned, compressed air or a clean, moisture-free source of low pressure (LP) air, blow out any dust, debris, or paper fibers from the Transport Unit.

NOTE: Be sure to blow out the Anti-Stringing Mechanism and the grooved channel in front of it (refer to **Figure 6***).*

5. Use a clean, lint-free Micro-Fiber cloth (dampened with cleaning solution) to wipe off the Rollers in the Transport Unit (refer to **Figure 6**, blue areas).
6. Use a clean, lint-free Micro-Fiber cloth (dampened with cleaning solution) to wipe off the Belts in the Transport Unit (refer to **Figure 6**, orange areas).

NOTE: If necessary, use a Technician's Cleaning Brush (JCM P/N 501-000097R) to remove residue build-up from the Belts in the Transport Unit. The Drive Belts can easily be moved by hand, in order to clean the entire belt.

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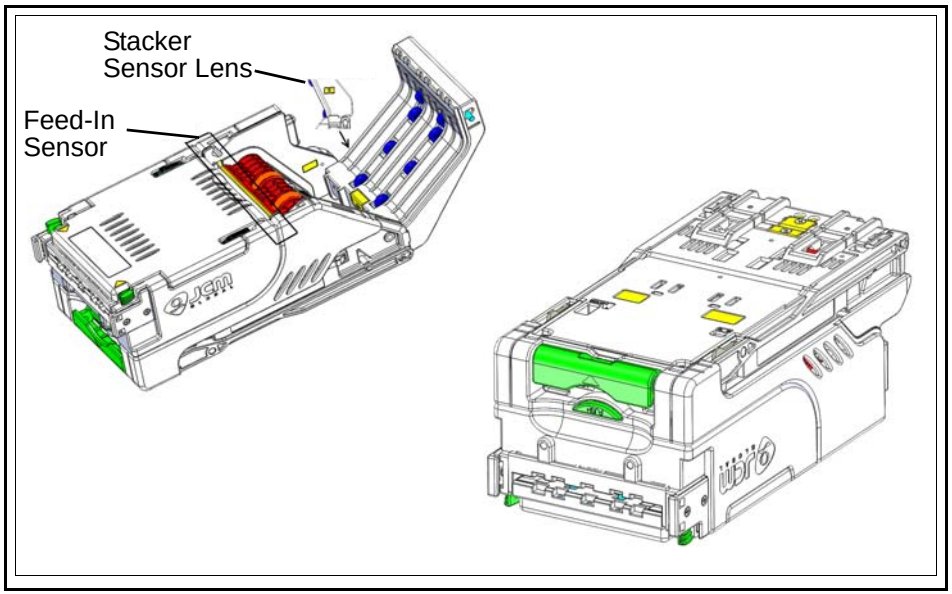

Figure 6 iVIZION Head and Transport Unit/Inverted Unit